

Pacific Outer Continental Shelf Region (POCSR) Pipeline Inspection and Monitoring Program

The BSEE regulations at 30 CFR 250 Subpart J require that pipelines and associated valves, flanges, and fittings be designed, installed, operated and maintained to provide safe and pollution-free transportation of fluids. The regulations require that pipeline routes be inspected for indication of pipeline leakage and that pipelines with a cathodic protection life expectancy of less than 20 years be inspected annually by taking measurements of pipe-to-electrolyte potential.

BSEE currently regulates approximately 213 miles of pipeline in the POCSR. In 1990, the POCSR implemented a comprehensive inspection program that requires operators to use both internal and external inspection technologies in concert to assess and maintain the overall integrity of a pipeline. The inspection requirements became and continue to be conditions of approval for lease term pipelines and are stipulations for pipeline right-of-way grants.

Inspection Program:

The POCSR pipeline inspection program requires that external and internal inspections be conducted in alternating years by a third party, unless approved otherwise. External surveys are done using remotely operated vehicles (ROV) or side scan sonar technology. ROV surveys include the visual inspection of pipeline risers and riser clamps; any pipeline supports, debris or any other object which might constitute a pipeline safety concern or hazard; and rectifiersⁱ or anodesⁱⁱ. A close-interval cathodic protection surveyⁱⁱⁱ is conducted in conjunction with the external survey. Internal inspections are conducted to identify damage to or corrosion in the pipeline using a high-resolution inspection tool (a.k.a. smart pig) approved by BSEE.

The POCSR conducts an in-depth review of pipeline inspection reports, analyzes the report findings and compares results with those from previous inspections and with established industry standards. Following this review, BSEE determines whether additional information, follow-up inspections, repairs, or replacements are needed. Operators must maintain pipelines to provide safe and pollution-free transport of produced oil and gas and are required to submit any necessary corrective action plans along with the pipeline inspection reports.

Pipeline Leak Detection:

Pursuant to 30 CFR 250.1004(b) (5), the Regional Supervisor requires that all oil pipelines in the POCSR be equipped with a leak detection system. The leak detection system is a metering system that provides continuous volumetric comparison between the pipeline's product input and output to ensure no oil is leaking from the pipeline. The system includes alarms and adequate sensitivity to detect variations between input and discharge volumes.

Agency Coordination:

Because pipelines can cross from Federal to State to County lands, many POCSR pipelines are subject to regulatory requirements of multiple Federal, State, and local agencies. The agencies with primary regulatory authority over POCSR pipelines include:

- DOI, Bureau of Safety and Environmental Enforcement

- Western Region, Pipeline and Hazardous Materials Safety Administration (formally Office of Pipeline Safety)
- U.S. Department of Transportation
- California State Lands Commission
- California State Fire Marshal
- California Department of Conservation, Division of Oil, Gas & Geothermal Resources

Each agency has imposed inspection requirements on POCSR pipelines in accordance with their respective jurisdictional authorities, responsibilities and interests. In recognition of each of the agencies' respective regulatory responsibilities, the agencies agreed that a Memorandum of Agreement (MOA) was needed to assure coordination and consultation during the implementation of regulatory requirements, to facilitate comparable regulatory requirements for all offshore pipelines, and to avoid conflict and unnecessary duplication. In 1999, Federal and State agencies signed an MOA to implement the Offshore California Pipeline Inspection Survey (OCPIS) Plan process and procedures. The OCPIS Plan provides a coordinated analytical framework for assessing the present condition and inspection needs of offshore pipelines. The County of Santa Barbara and other local governments are not part of the MOA; however, they coordinate with the included agencies when there are pipeline issues.

ⁱ **Rectifiers:**

A rectifier is an electrical device that changes alternating current (ac) into direct current (dc). The current is impressed on the metal pipeline to protect it against corrosion.

ⁱⁱ **Anodes:**

Sacrificial anodes are metals that react quickly or strongly with other substances and are used to prevent corrosion of a less active material. The anodes are created from a metal alloy with a more negative electrochemical potential than the metal they are used to protect.

ⁱⁱⁱ **Close-interval cathodic protection survey:**

A close-interval cathodic protection survey, also known as a potential gradient survey, is a method for assessing the effectiveness of a pipeline's cathodic protection system. Cathodic protection uses an electric current to control corrosion. The survey measures the difference in potential (voltage) between the pipeline and its surroundings at intervals throughout the length of the pipeline.